

CSE- 4027 LAB-4 Assignment

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Semester: WIN

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Data Visualization in R

- **R Pie Charts**
- **R Bar Charts**
- **R Boxplot**
- **R Histogram**
- **R Line Graphs**
- **R Scatterplots**

```
> # Create a List.  
> list1 <- list(c(2,1,3,7),43.6,sin)  
  
> # Taran - 19BCE7346  
  
> # Print the List.  
> print(list1)
```

You can install the complete tidyverse with a single line of code:

```
install.packages("tidyverse")  
library(tidyverse)  
install.packages(c("nycflights13", "gapminder", "Lahman"))
```

```
library(ggplot2)
```

mpg(Default Fuel Economy Datasets)

?mpg #help mpg

mtcars(default dataset)

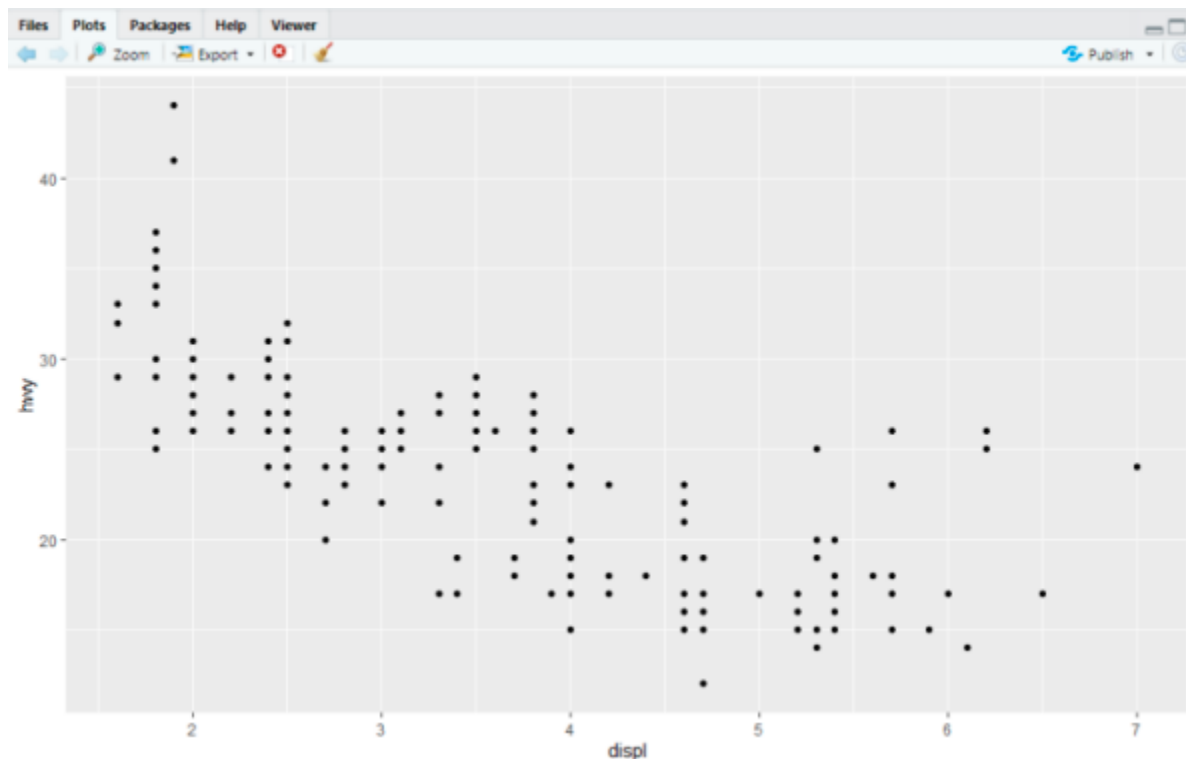
1. Creating a ggplot – mpg dataset

To plot mpg, run this code to put displ on the x-axis and hwy on the y-axis:

```
ggplot(data = mpg) +
```

```
geom_point(mapping = aes(x = displ, y = hwy))
```

Draw the graph:



Answer the questions:

1. Run `ggplot(data = mpg)`. What do you see?

2. How many rows are in mpg? How many columns?

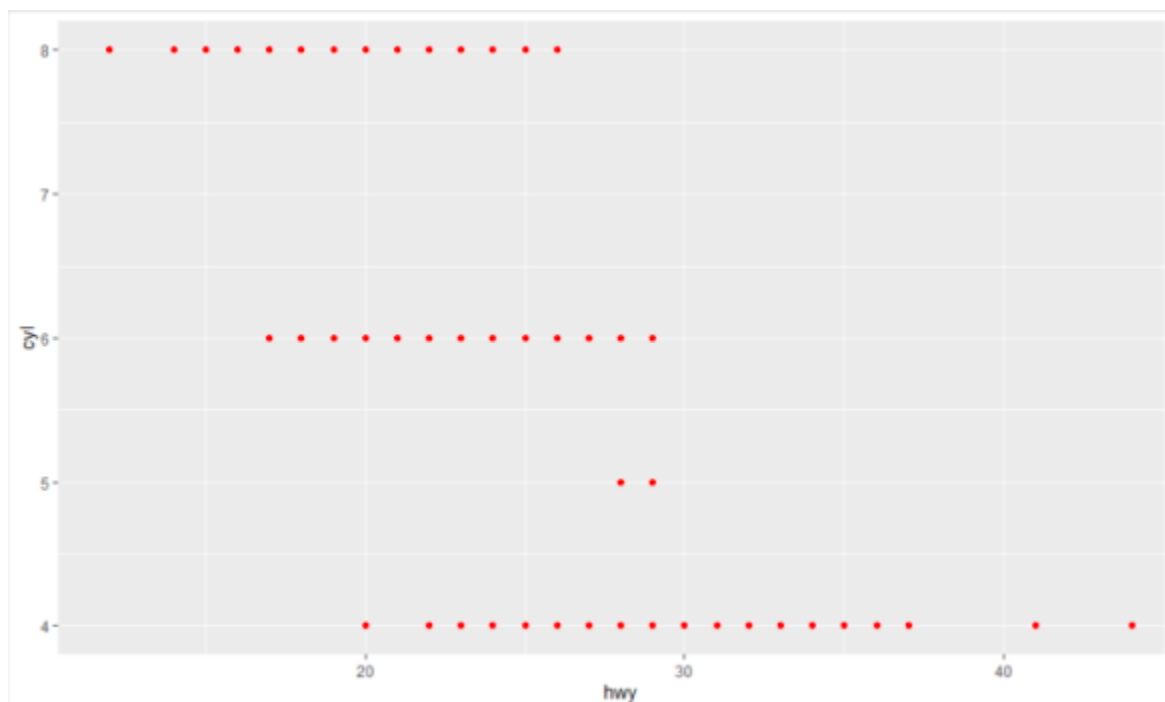
234 rows and 11 column

3. What does the drv variable describe? Read the help for ?mpg to find out.

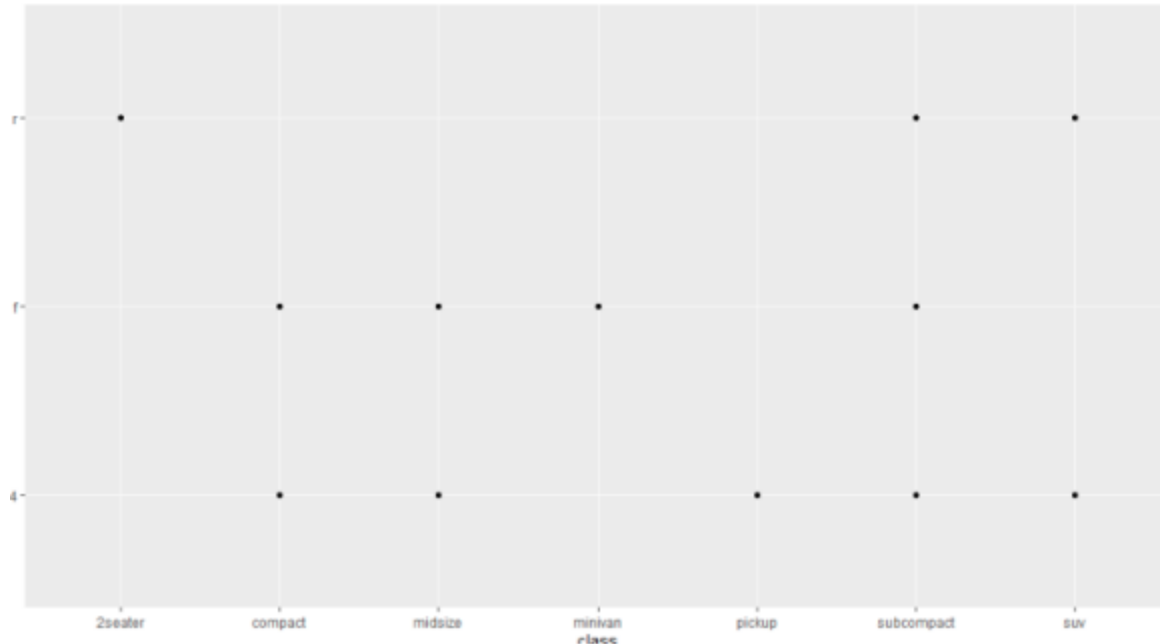
drv

the type of drive train, where f = front-wheel drive, r = rear wheel drive, 4 = 4wd

4. Make a scatterplot of hwy vs cyl.

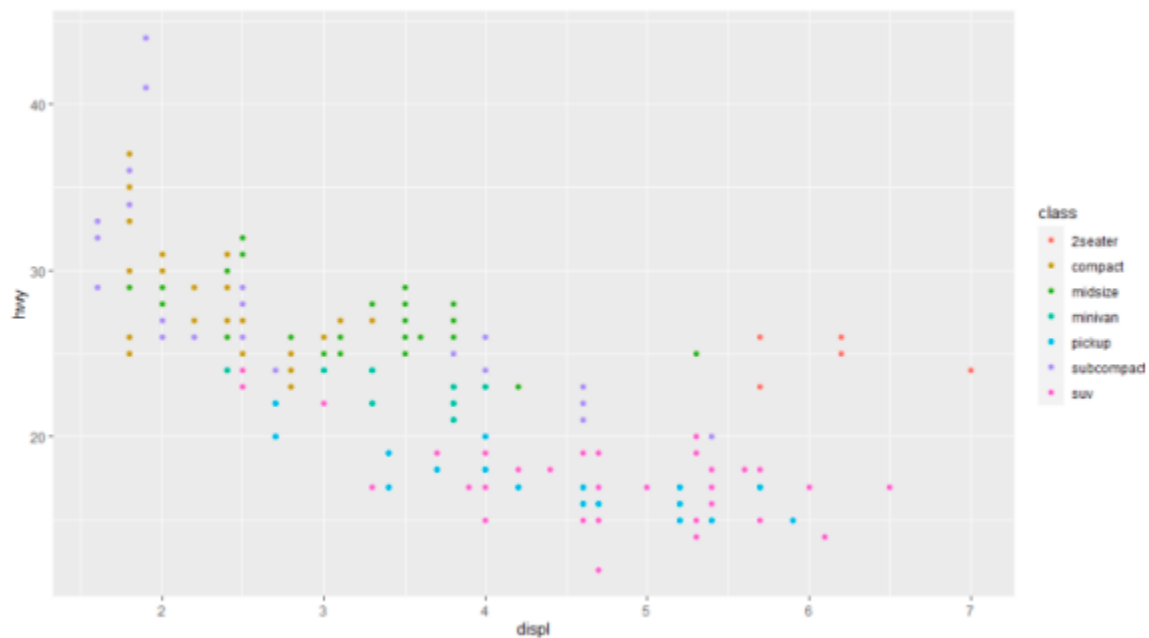


5. What happens if you make a scatterplot of class vs drv? Why is the plot not useful?



6. Map the colors of your points to the class variable to reveal the class of each car.

```
ggplot(data = mpg) + geom_point(mapping = aes(x = displ, y = hwy, color = class))
```



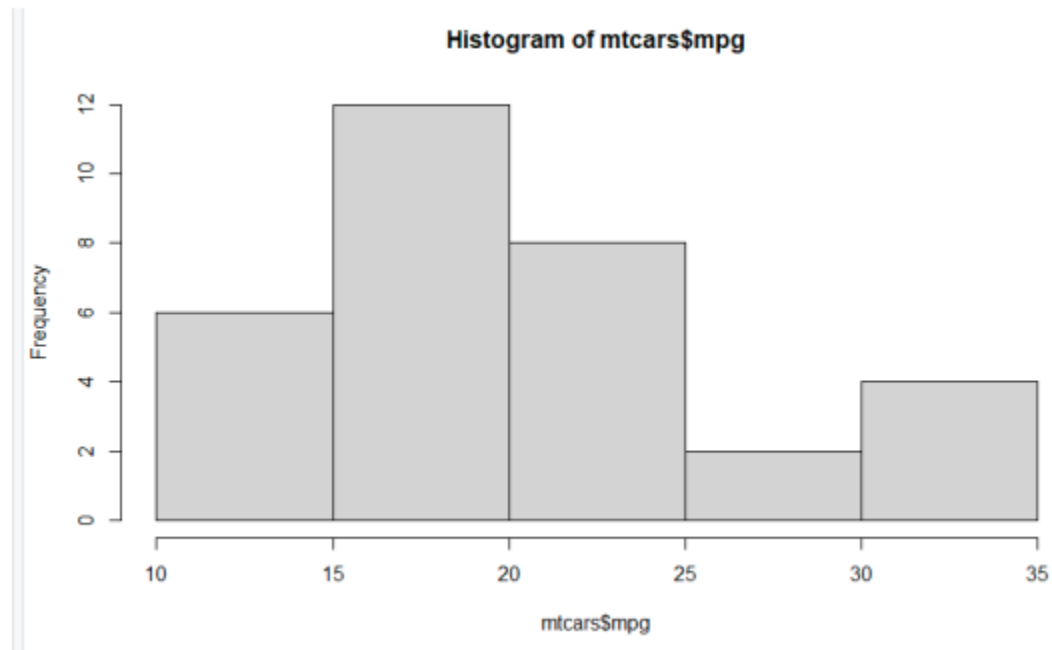
2. Working with mtcars dataset

(<http://makemeanalyst.com/r-programming/data-visualization-using-r/>)

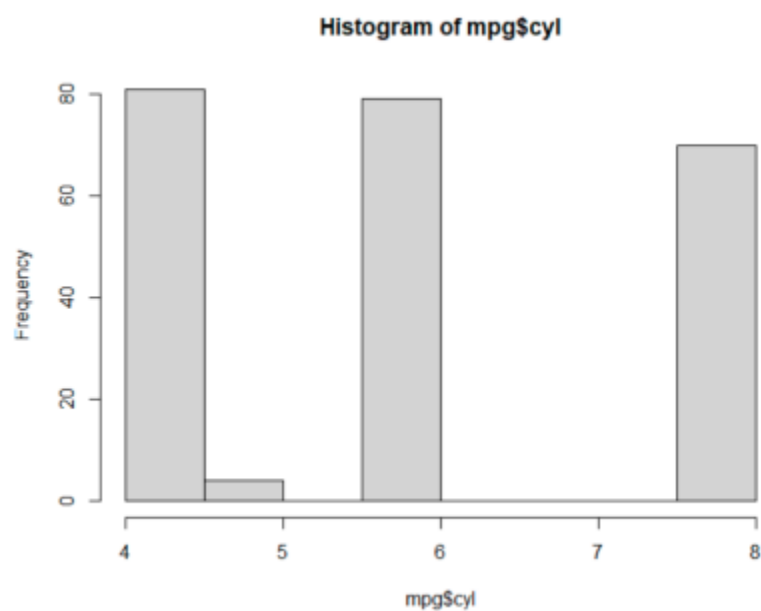
Draw four methods of visualizing data are often used.

- Histograms

```
> hist(mtcars$mpg)
```

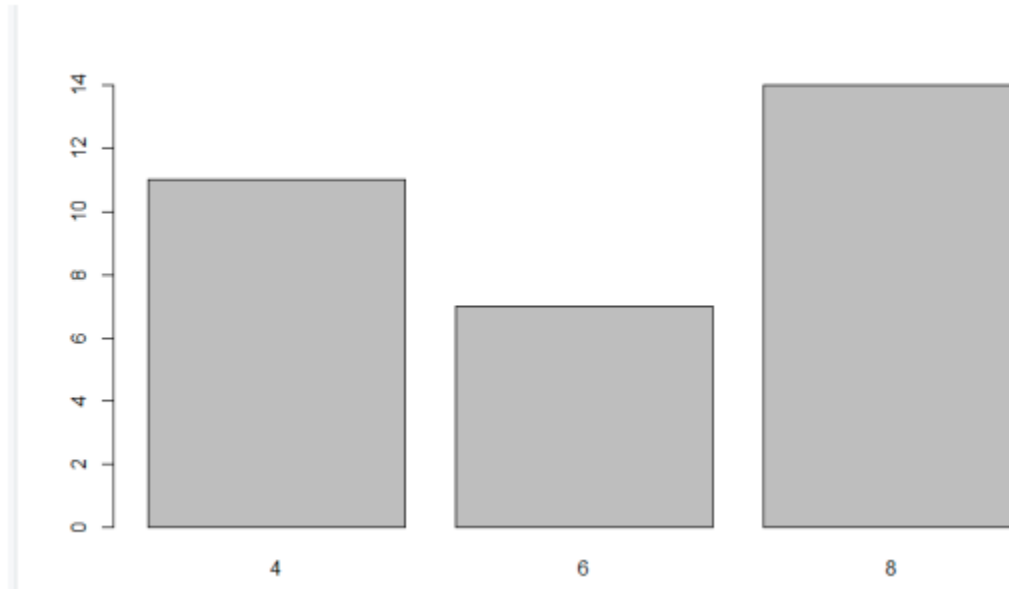


```
> hist(mpg$cyl)
```

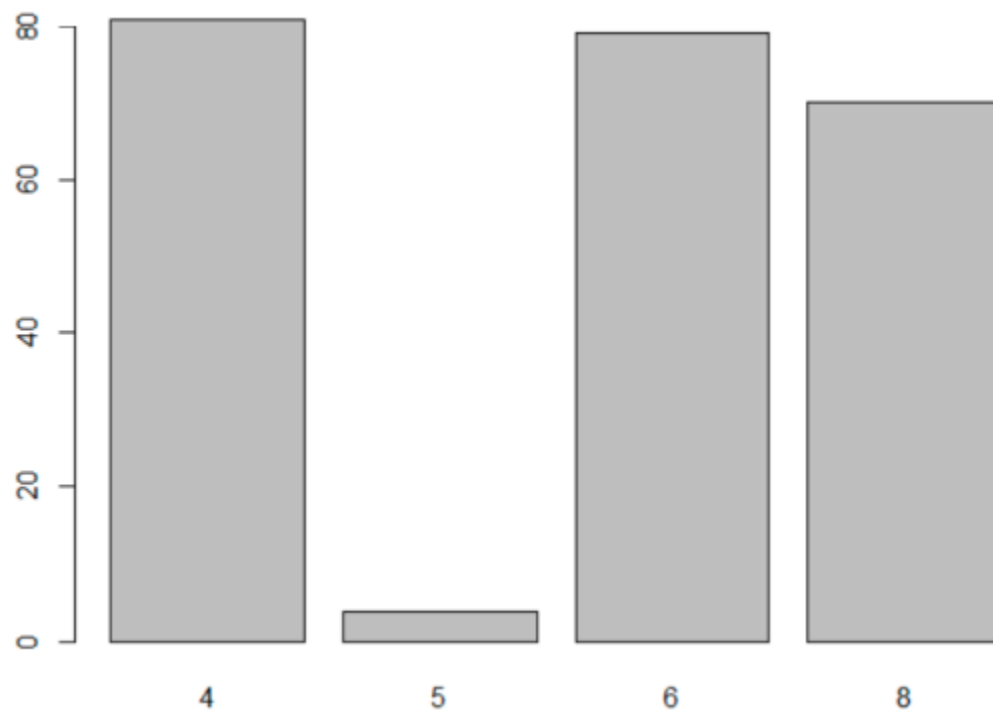


· Barplots

```
>barplot(table(mtcars$cyl))
```

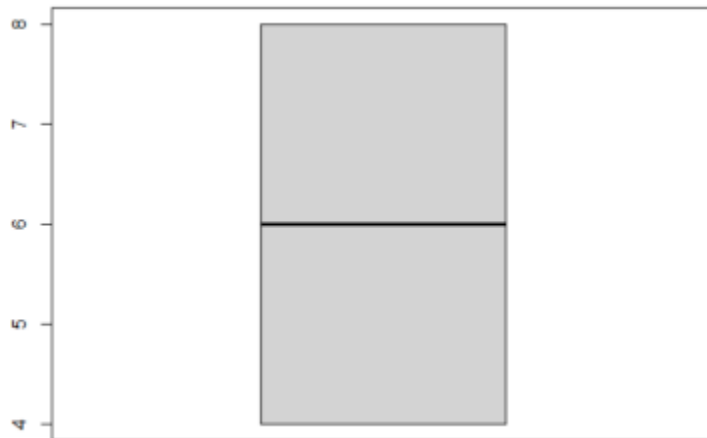


```
>barplot(table(mpg$cyl))
```



• Box Plots

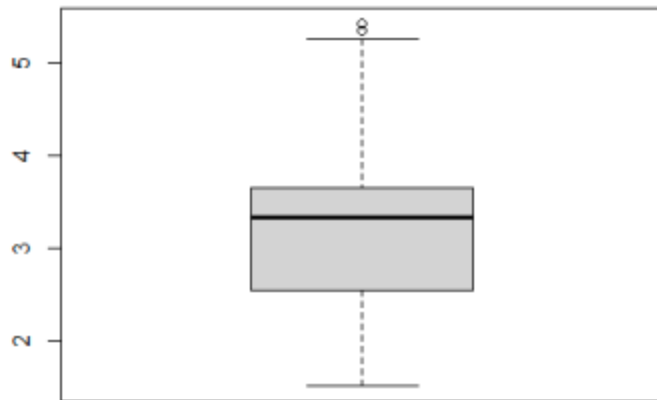
```
>boxplot(mpg$cyl)
```



```
>barplot(table(mtcars$cyl), xlab = "Number of cylinders", ylab =  
"Frequency", main = "mtcars dataset", col = "lightseagreen", border =  
"darkorange")
```



```
>boxplot(mtcars$wt)
```



```
> boxplot(mpg ~ cyl , data = mtcars)
```

